

Supplement Notice

Information for users

The attached standard:

RT/CE/S/023

Issue 1

has essential supplementary information

Instructions for use

It is essential that you first read and understand the supplement pertaining to the standard before proceeding to the standard. You must then apply the requirements of the supplement to the standard.

Proceed to supplement ►**I have read & understand the supplement.
Proceed to standard ►**

Ref	NR/SP/TRK/023
Issue	I
Date	March 1996

Insulated Rail Joints (formerly RT/CE/S/023)

This temporary front sheet facilitates change to the new Network Rail Standards referencing nomenclature.

The Ref above will be formally allocated to this standard when it is next changed in the meantime the contents, date and issue number of this Network Rail Standard are **UNCHANGED and with immediate effect it should be referred to as “(new ref) formerly (old ref)”.**

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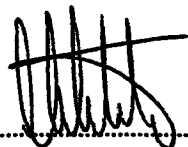
SPECIFICATION

INSULATED RAIL JOINTS

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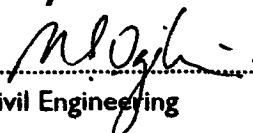
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INSULATED RAIL JOINTS

Summary

This specification gives the requirements for the geometry and the mechanical and electrical performance of insulated rail joints for use in Railtrack's permanent way.

Issue record

This specification will be updated when necessary by distribution of a complete replacement. Amended or additional parts of revised pages will be marked by a vertical black line in the margin.

Issue: 1 **Date:** March 1996 **Comments:** New specification

Responsibilities

This specification shall be complied with by all manufacturers and purchasers of insulated rail joints for use in Railtrack's permanent way.

Persons using this specification shall ensure that they use the latest version of any document to which reference is made.

Implementation

The provisions of this specification are mandatory and apply from two months after the issue date shown at the top of this page unless a temporary non-compliance has been authorised by Director Civil Engineering.

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Supply

Persons requiring controlled copies of this specification shall obtain them from their Directorate's Document Control Point.

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INSULATED RAIL JOINTS

FOREWORD

High axle loads, combined with rails of modest height, create a severe environment for insulated rail joints. To reduce the risk of premature joint failure in service (whether electrical or mechanical) the "Type Approval" endurance test described in this specification has been developed. This test simulates the type of loading environment (except impact) experienced by insulated rail joints in track.

The installed joint must not foul wheels, rail fastenings or tamping tines; the space envelope within which all the joint's components must lie to achieve this is therefore defined here .

This specification includes a system of joint grading. Class A and Class B joints are suitable for use in CWR and it is recommended that they are used elsewhere where high electrical reliability and mechanical durability are required. Other than in exceptional circumstances, the life of Class A & B joints should approach the life of the rail. However, more maintenance is to be expected with Class B joints in terms of periodic checks of bolt tightness and packing of adjacent sleepers.

Class C joints are intended to be used only in jointed track, hence there is no requirement for them to sustain an axial load during the Type Approval test; the bending moments and shear forces applied are however the same as for other grades. The use of Class C joints may be economically advantageous on lightly trafficked routes.

It is recognized that the performance of plastics can be strongly affected by temperature . This is not covered by the test procedure specified here. It will facilitate the approval of specific designs of joint if supplementary evidence can be provided that the product will perform satisfactorily over a temperature range of -15° to +40°C. Particular concerns are the potential for loss of fastener tension due to creep at high temperatures and the break-up of the liner or adhesive at low temperatures due to embrittlement.

Whilst this specification covers only joints using steel cored fishplates, Railtrack will consider the installation of non-metallic fishplates on a trial basis. A precondition of such trial installations is likely to be the completion of tests similar to those described here.